

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

INTELLECTUAL VENTURES I LLC
and
INTELLECTUAL VENTURES II LLC,

Plaintiffs,

V.

GENERAL MOTORS COMPANY and
GENERAL MOTORS LLC,

Defendants.

C.A. No. 6:21-cv-01088-ADA

JURY TRIAL DEMANDED

DEFENDANTS' REPLY CLAIM CONSTRUCTION BRIEF

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TABLE OF DISPUTED CLAIM TERMS

Order	Claim Term(s), Phrase(s), or Clause(s)	Asserted Claim(s)
1	“Method for addressing components of a first network in a data bus system in a transport vehicle, in which each component is assigned a first address for mutual communication within the network and the first addresses are stored in a central register, wherein at least one particular component of the first network communicates with a second network, said one component, when dialling into the second network, is assigned a second address by the second network, and wherein, within the first network, addressing takes place on the basis of function-specific address components, identical function blocks of the components being addressed via identical function-specific address components.”	’283 Patent, Claim 1
2	“wherein, within the first network, addressing takes place on the basis of a function specific address component” “wherein addressing within the first network takes place on the basis of the function-specific address components”	’283 Patent, Claims 1, 21
3	“Method according to claim 1, wherein a component of the first network registers a communication with the second network with the at least one particular component which communicates with the second network, whereupon a component of the at least one particular component, with the internal address from the first network, enables communication with an external IP address and thereupon sets up communication with the second network”	’283 Patent, Claim 2
4	“Local Area Network (LAN) routing system managing the data path between said wireless access point and said internet access interface”	’771 Patent, Claims 1, 9
5	“without the need to access an external service controller server”	’771 Patent, Claim 1
6	“transmit opportunity”	’318 Patent
7	“wherein the transmit opportunity is commenced with a control frame”	’318 Patent
8	“automatically forming a network of the plurality of network elements”	’004 Patent, Claim 68
9	“the assembled plurality of network elements”	’004 Patent, Claim 68
10	“the processor is further configured to receive feedback information from a downlink control channel”/ “receiving, by the UE, feedback information from a downlink control channel”	’356 Patent, Claims 1, 22
11	“integration time”	’158 Patent, Claims 1-3, 7-9, 11-16
12	“an image capture device”	’158 Patent,

Order	Claim Term(s), Phrase(s), or Clause(s)	Asserted Claim(s)
		Claim 1
13	“an interface ... configured to receive the integration time of the each sensor as an input to an image capture device”	’158 Patent, Claim 3
14	“violation”	’475 Patent, Claims 1, 3-5, 7-8, 10-12, 15, 17-20
15	“first user preference”	’608 Patent, Claims 1, 2, 8-10
16	“a geographic area limitation”	’608 Patent, Claims 1, 2, 5, 8, 9, 12
17	“substantially real-time updates”	’608 Patent, Claims 4, 10
18	“First parameter,” “second “parameter,” “third parameter,” and “fourth parameter”	’466 Patent, Claims 1, 3, 6, 8
19	“wherein resources are allocated for data of each channel of a radio bearer having a second parameter above zero prior to another channel’s data for transmission having a third parameter less than or equal to zero” “wherein resources are allocated for data of each channel [of a radio bearer] having a second parameter above zero [before/prior to] another channel’s data for transmission having a third parameter less than or equal to zero”	’466 Patent, Claims 1, 6
20	“store video data in the buffer”	’628 Patent, Claim 1
21	“wherein the selection of the data occurs using a first iteration and a second iteration”	’138 Patent, Claims 1, 8
22	“wherein in the first iteration, the selection of the data is selected from a subset of the plurality of radio bearers based on the received parameters, wherein in the second iteration, the selection of the data is based on buffered data for respective radio bearers”	’138 Patent, Claims 1, 8
23	“local content module that stores content that can be accessed by said client devices directly through said high-speed access point”	’771 Patent, Claim 4
24	“a processor configured to determine the length of time of the transmit opportunity based on a priority of the first queue”	’318 Patent, Claim 1
25	“a processor configured to receive resource allocation information associated with an uplink physical control channel...”	’356 Patent, Claim 1

Order	Claim Term(s), Phrase(s), or Clause(s)	Asserted Claim(s)
	<p>“the processor is further configured to send data over the physical uplink shared channel in assigned time intervals”</p> <p>“the processor is further configured, in a time interval that it is not sending information over the physical uplink shared channel, to send a signal over the uplink physical control channel based on the received resource allocation information;”</p>	
26	<p>“circuitry configured to receive broadcast information to access an orthogonal frequency division multiple access (OFDMA) system...”</p> <p>“circuitry configured to determine a second bandwidth of a second band that is associated with the OFDMA system based upon the broadcast information received in the first band...”</p> <p>“wherein the mobile station is configured to operate within the plurality of operating channel bandwidths”</p>	’641 Patent, Claims 11, 25
27	<p>“a processing component configured to...”</p> <p>“the processing component is configured to...”</p> <p>“the processing component is further configured to...”</p>	’158 Patent, Claim 1, 5, 9
28	“processing module configured to determine, while the device is in the vehicle, that the vehicle committed a violation based on the information about the vehicle”	’475 Patent, Claim 15
29	<p>“processor is configured to:...Detect a movement of a door latch of a vehicle”</p> <p>“processor is configured to:...“attempt to detect a wireless key fob configured to provide digital authorization for an attempted access event”</p>	’628 Patent, Claim 1
30	“processor is configured to...”	’138 Patent, Claim 1

TABLE OF EXHIBITS

Exhibit No.	Description
General Motors' Opening Brief Exhibits	
Ex. A	Declaration of Scott Andrews
Andrews Ex. 1	7,891,004
Andrews Ex. 2	Prosecution History of U.S. Patent No. 7,891,004
Andrews Ex. 3	9,232,158
Andrews Ex. 4	Prosecution History of U.S. Patent No. 9,232,158
Andrews Ex. 5	6,832,283
Andrews Ex. 6	Prosecution History of U.S. Patent No. 6,832,283
Andrews Ex. 7	9,291,475
Andrews Ex. 8	Prosecution History of U.S. Patent No. 9,291,475
Andrews Ex. 9	9,602,608
Andrews Ex. 10	Prosecution History of U.S. Patent No. 9,602,608
Andrews Ex. 11	9,934,628
Andrews Ex. 12	Prosecution History of U.S. Patent No. 9,934,628
Andrews Ex. 13	Fast Tone Mapping for High Dynamic Range Images, but Juiang Duan and Guoping Qiu, Proceedings of the 17th International Conference on Pattern Recognition (ICPR'04) 1051-4651/04, IEEE 2004
Andrews Ex. 14	U.S. 5,801,773 (Ikeda)
Andrews Ex. 15	JP 1999/317905 (Nakajima)
Andrews Ex. 16	U.S. Pat. Pub. 2002/0012071 (Sun)
Andrews Ex. 17	U.S. 6,611,289 (Yu)
Andrews Ex. 18	U.S. 6,943,837 (Booth)
Andrews Ex. 19	Extending Dynamic Range of Two Color Images under Different Exposures, by Won-ho, Cho and Ki-Sang, Hong, Published in the Proceedings of the 17th International Conference on Pattern Recognition (ICPR'04), 1051-4651/04 IEEE 2004.
Andrews Ex. 20	https://historycooperative.org/first-camera-the-history-of-cameras/
Andrews Ex. 21	ANSI PH 2.7-1986
Andrews Ex. 22	Automotive Electronics Handbook, by Ronald Jurgen
Andrews Ex. 23	A. Tanenbaum, Computer Networks, 3rd Edition, Prentice-Hall International, Inc. (1996)
Andrews Ex. 24	U.S. 6,097,021 (Aswell)
Ex. B	Declaration of Christopher Hansen Ph.D.
Hansen Ex. 1	'356 Patent File History, 6/19/2008 Response to Non-Final Office Action, at 8
Hansen Ex. 2	IEEE 802.11-00/071
Hansen Ex. 3	IEEE 802.11e-2005
Exhibit C	Declaration of Paul S. Min
Min Ex. 1	9,681,466
Min Ex. 2	Prosecution History of U.S. Patent No. 9,681,466
Min Ex. 3	10,292,138
Min Ex. 4	Prosecution History of U.S. Patent No. 10,292,138

Exhibit No.	Description
Min Ex. 5	8,953,641
Min Ex. 6	Prosecution History of U.S. Patent No. 8,953,641
Min Ex. 7	8,811,356
Min Ex. 8	Prosecution History of U.S. Patent No. 8,811,356
Min Ex. 9	Andrew Tanenbaum, Computer Networks (Fourth Edition) (2003) (“Tanenbaum”)
Min Ex. 10	C. Smith And D. Collins, 3g Wireless Networks, (2002) (“Smith”)
Min Ex. 11	OFDM: Back to the Wireless Future, Computer, Vol. 35, Issue 12, December 2002
Min Ex. 12	“WCDMA for UMTS,” by Harri Holma and Antti Toskala, Wiley & Sons, 2001, ISBN 0471486876
Min Ex. 13	IEEE Standard Dictionary of Electrical and Electronics Terms, IEEE Std 100-1992
Min Ex. 14	Dictionary of Materials and Testing
Min Ex. 15	Pocket Illustrated Dictionary of Engineering Terms, 2001
Ex. D	7,382,771
Ex. E	‘771 File History, November 30, 2007 Response to Office Action
Ex. F	7,684,318
Ex. G	’318 File History, 6/19/2008 Response to Non-Final Office Action
Ex. H	Court Email
Ex. I	6,598,155 (Ganapathy)
Ex. J	E2V Technologies, CCD Sensors Technical Note Glossary of Terms
General Motors’ Rebuttal Reply Brief	
Ex. K	McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Ed.
Ex. L	May 13, 2022 Disclosure of Proposed Claim Constructions
Ex. M	April 30, 2022 Preliminary Invalidity Contentions
Ex. N	Rebuttal Declaration of Scott Andrews
Ex. O	Rebuttal Declaration of Christopher Hansen Ph.D.
Hansen Ex. 4	ARM System-on-Chip Architecture

Defendants General Motors Company and General Motors LLC (collective “Defendants” or “GM”), hereby respectfully reply to Plaintiffs’ Responsive Claim Construction Brief regarding the construction of the disputed terms and limitations in the Asserted Patents. For convenience, GM has organized its Reply in the same order as set forth in the IV Response brief.

I. THE DISPUTED CLAIM TERMS

A. ’283 Patent – “component”

IV identified the term “component”—a basic concept—for construction for the first time in its response brief. IV’s construction is completely divorced from the plain and ordinary meaning of the term and is inconsistent with the use of the term in the specification and claims.

“Component” is used in the ’283 specification and claims consistent with its well-understood meaning: “[a] constituent part of a system.” Ex. K at 4. Indeed, claim 1 uses “component” to describe both parts of the network (*i.e.*, devices; “identical function blocks of the **components** being addressed”) and also parts of the function specific address (“addressing takes place on the basis of function-specific address **components**”). *See also* claim 4 (“respective decentralized memory in each **component**.”); ’283 Patent, 2:32-36 (“addressing of the **individual components** can be decisively improved if addressing takes place via a **function-specific component of the address**”); *id.* at 5:65-66 (“[o]ne **component** is a network master 2, *i.e.*, a control device.”)

In contrast, IV treats “component” as if it only refers to a part of the functional address of a device. This results in non-sensical claims when IV’s construction is used for each instance of “component.” IV’s construction also introduces concepts—such as “control device,” “functional blocks,” or “subdivided”—that do not appear in the claims. IV’s construction should be rejected.

B. '283 Patent – “first address”

IV identified this term for the first time in its response brief, but fails to show why the Court should deviate from the plain and ordinary meaning. IV takes two well-understood terms (“first” and “address”) and imports a sentence of new concepts—“logical address,” “physical location,” “control device,” and “subdivided”—that do not appear in claim 1, much less as part of the term “first address.” Moreover, IV’s position is directly contradicted by claim 10, which states “the *first address* assigned to each component specifies a physical location *and/or* a functional association of each component.” *See also* Claim 21 (“*first address* comprises the logical address *and/or* function specific address component”). IV’s construction would nullify the “or” language in these claims and render the above phrases entirely superfluous since “first address” alone would already include both a “logical address” and “function specific address component.”

IV’s reliance on the prosecution history is misplaced. The examiner indicated “[a]pplicant’s attorney explained the invention and how the components *can* have logical as well as functional addresses and further can be assigned IP addresses from the second network.” ECF 55, Ex. 2¹. This does not indicate that the components are required to have either logical or function-specific address components, let alone both.

C. '283 Patent – Claim 1

IV does not dispute that a method claim without any method steps is indefinite. Instead, IV alleges that claim 1 includes a single “active” step. ECF 55 at 4. However, IV misleadingly excises the limitation in a way that changes its meaning entirely. Specifically, IV removes the words “a method for” and then argues that the rest of the limitation is an active step:

¹ All emphasis is added unless otherwise stated.

IV Excised Quote	Actual Claim Language
“addressing components of a first network in a data bus system in a transport vehicle, in which each component is assigned a first address for mutual communication within the network and the first addresses are stored in a central register...”	“ A method for addressing components of a first network in a data bus system in a transport vehicle, in which each component is assigned a first address for mutual communication within the network and the first addresses are stored in a central register...”

The excised language (“a method for”) makes clear that the claim limitation is 1) part of the preamble, which neither party argued is limiting (ECF 47 at 3); 2) nothing more than an intended use; and 3) not an active step, as GM explained. ECF 47 at 2-4; ECF 47-1 at ¶¶170-172.

IV mistakenly argues that claim 1 is distinguishable from GM’s cited cases because the claims at issue there were for an intended use or benefits. However, the claim language IV relies on—when “method for” is not excised—is identical in structure to those cases. *See, e.g., Ex Parte Erlich*, 3 U.S.P.Q.2d 1011 at *8 (B.P.A.I. 1986) (invalidating “**A process for using** monoclonal antibodies of claim 4 to isolate and purify human fibroblast interferon.”). IV’s alleged active step is an *intended use* for a claimed method or process. The claims never claim any active steps of that method. In addition, to the extent IV is relying on the term “in which each component is assigned a first address...” that is not an active step, but passive language that at best is a condition of the system or environment, as GM explained. ECF 47 at 3. IV’s argument that “[i]t is not impossible to determine when infringement is configured to perform addressing” (ECF 55 at 4)—to the extent understood—is premised on IV’s removal of “a method for” from the claim and ignoring that “in which...” is a non-active description of the environment or a condition. The “method” claim is therefore indefinite because it is unclear what method steps—if any—actually need to be performed to practice this method claim. ECF 47 at 4; ECF 47-1 at ¶¶170-178.

D. ’283 Patent – “wherein, within the first network, addressing takes place...”

IV’s position makes no sense. On one hand, IV argues that the claimed “function-specific addressing” is “the centerpiece of the invention” when construing “component.” ECF 55 at 2. On

the other, IV argues that this addressing could just be the prior art standard communication protocols (D2B and MOST). Common sense and the specification dictate otherwise.

IV fails to address a key specification passage that clearly distinguishes the claimed “addressing” in the ’283 Patent from simply being the prior art MOST or D2B is addressing. ’283 Patent, 2:46-54. This disclaimer makes clear that the claimed functional addressing may be used *in addition to* D2B and MOST—not that it *is* D2B and/or MOST. Thus, the ’283 Patent teaches a third means of addressing that is used instead of, or *in addition to*, D2B and MOST. GM’s proposed construction makes this clear. ’283 Patent, 2:46-54; ECF 47-1 at ¶¶179-180.

IV’s reliance on dependent claims 6 and 7 is misplaced. As the specification explains, “[u]sing optical data buses as a basis, a first type of addressing which uses the function-specific address components is provided *within the data bus in addition to the standard communication*, for example D2B or MOST protocol.” ’283 Patent, 2:46-54. In other words, the specification teaches that the claimed functional addressing can be used in the same system as prior art D2B and MOST—and apparently can use the same optical data bus—but that the functional addressing is still in addition to (*i.e.*, something more or different) these prior art protocols. Indeed, it would have made no sense for the applicant to have claimed that the addressing that allegedly distinguishes over the prior art and “is the centerpiece of the invention” was simply the admitted prior art addressing systems.

E. ’283 Patent – Dependent Claim 2

IV’s argument essentially concedes that claim 2 has no support in the specification. ECF 55 at 8. IV instead stitches together various disparate references from the specification, bolstered by conclusory expert statements, and concludes that a POSITA would have understood the connections. *Id.* As GM showed, there is no description in the ’283 Patent that discloses that a component on a first network can “register a communication with the second network *with the at*

least one particular component which communicates with the second network.” Id. at ¶184. IV also does not address the fact that claim 2 references multiple components that have no antecedent basis, which further confuses the meaning of the claim. ECF 47-1 at ¶183. Simply put: there is no description of this nonsensical embodiment and the claim is indefinite.

F. ’771 Patent – “Local Area Network (LAN) routing system managing the data path ...”

This term should be accorded its plain and ordinary meaning. ECF 47 at 8-9. IV abandons its original construction in favor of a construction adopted by the PTAB. Like IV’s original construction, this construction adds requirements that are simply not present in the claim language:

’771 Claim Language	PTAB Construction
Local Area Network (LAN) routing system managing the data path between said wireless access point and said Internet access interface	a system that <i>directs data between a local area network and the Internet</i> by managing the data path between a wireless access point and an Internet access interface

The claim language requires only “managing the data path” between a wireless access point and an internet access interface of the claimed mobile hotspot. By contrast, IV’s construction requires the LAN to not only manage the data path (which is all the claim requires) but also to “direct data between a local area network and the Internet.” There is no requirement for directing data in the claims, much less directing data from the LAN all the way to the internet. Accordingly, this Court should reject IV’s revised construction and adopt the plain and ordinary meaning.

G. ’771 Patent – “without ... an external service controller server” and “stand alone system”

GM’s construction is dictated by applicant’s statements during prosecution and is consistent with the plain meaning of the claim language. IV agrees that the claim language “without the need to access an external service controller server” does not appear in the ’771 Patent specification and was added during prosecution in response to a prior art rejection based on Kokkinen. ECF 55 at 9. As IV admits, Kokkinen discloses an external “service control server 90

which accesses the Internet through a gateway 92.” *Id.* During prosecution, applicant repeatedly stated that the Kokkinen system has “a service control server 90 which accesses the Internet through a gateway 92.” ECF 55, Ex. 5 at 8 (twice); Ex. 7 at 9 (“Referring to Figure 2 of Kokkinen et al., the system is made up of a server 50 and a service control server 90 which accesses the Internet through a gateway 92.”) Applicant specifically distinguished the claimed invention from the Kokkinen system: “[t]here is no service controller or auxiliary server required as in Kokkinen.” ECF 55, Ex. 7 at 10. GM’s proposed construction tracks applicant’s prosecution statements by defining “external service controller server” as an external server to which client devices must connect before being enabled to access the internet.

GM’s construction is also consistent with the plain meaning of the claim language. The claim recites a “mobile wireless hotspot system” that is a “stand-alone system that enables client devices...to use said mobile wireless hotspot system to access the Internet without the need to access an external service controller server.” This language indicates that there is a “stand-alone system” that enables the client devices to use the mobile wireless hotspot system to access the internet, and that the stand-alone system accesses the internet without needing to access an external service controller server to enable the client devices to access the internet.

IV incorrectly contends that “external service controller server” claim language has no separate meaning and is subsumed by the “stand-alone system” term. ECF 55 at 9. “[S]tand-alone system” and “external service controller server” are two different terms that refer to different objects: an “external service controller server” refers to a server that is external to the claimed system, while “stand-alone system” refers to the claimed system. Indeed, applicant told the PTO during prosecution that the stand-alone system and external server are two different limitations: “Claim 1 claims stand-alone operation as well as not having a requirement for an external server.”

ECF 55, Ex. 7 at 9. IV improperly seeks to read the term “external service controller server” entirely out of the claim. *See, e.g., Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”); *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004) (“[I]nterpretations that render some portion of the claim language superfluous are disfavored.”).

H. ’318 Patent – “transmit opportunity”² and “wherein the transmit opportunity is commenced with a control frame”

IV fails to address GM’s argument: the term “transmit opportunity” is not a term of art,³ and the claims and prosecution history provide inconsistent and irreconcilable definitions. ECF 47 at 11; ECF 47-27 at ¶¶41-42, 47. Specifically, the term “transmit opportunity” is not used in the ’318 specification and was only introduced into the claims during prosecution in response to an Office Action rejecting the claims. ECF 47-27 at ¶¶41-42, 46-47. Despite the ’318 specification using the well-known term “transmission opportunity,” the Applicant chose the term “transmit opportunity” and then, as GM explained, provided conflicting meanings for that term.

IV contradicts itself, claiming on one hand that the term “transmit opportunity” is used interchangeably with “transmission opportunity” (ECF 55 at 12) while at the same time claiming the exact opposite: “when Applicant’s amendments are read in context is clear that amendment

² IV’s waiver claim is meritless. GM gave notice of its position on this claim term at the outset of the claim construction process. IV claims no prejudice and has had ample time and opportunity to respond to GM’s position and disclosed the defense well before its Opening Brief. *See, e.g.,* Ex. L (May 13, 2022 Disclosure of Proposed Claim Constructions served two weeks after GM’s invalidity contentions) at 10; Ex. M (GM’s Preliminary Invalidity Contentions) at 131. IV’s reliance on an out of district case is thus misplaced.

³ IV does not dispute that transmit opportunity is not a term of art. *See, e.g.,* ECF 55-1 at ¶117 (vaguely describing the “concept” of a “window” or “opportunity” to transmit, but not claiming that “transmit opportunity” is a term known in the art); *see also* ECF 55 at 10.

was not replacing transmission for transmit.” ECF 55 at 11. IV never explains this “context” and provides no explanation for the inconsistency between the definition in the claim term that “transmit opportunity corresponds to a length of time during which the transmitting station *will* transmit data frames” and the meaning provided in the prosecution history that it “generally refers to the maximum amount of time a station *can* occupy a channel, each transmit time delineated by a start time and maximum duration. that requires at least a starting time or maximum duration.” ECF at 047-47.

IV’s argument that the term “wherein the transmit opportunity is commenced with a control frame” is not indefinite (ECF 55 at 11-12) confirms GM’s argument. IV does not argue that if one of the Applicant’s definition for “transmit opportunity” provided in the prosecution history applies (including requiring a “maximum amount of time”), the term is invalid. Instead, IV points to T_i as being a “time interval” commenced by a control frame. IV then argues, without support from its experts, that “a control frame can commence a time interval.”

I. ’004 Patent – “automatically forming a network of the plurality of network elements” and “the assembled plurality of network elements”⁴ (Claim 68)

On the one hand, it argues that the term “forming a network” does not require “assembling” the plurality of network elements. On the other hand, IV argues that “forming a network” provides antecedent basis “by implication” for “the assembled plurality of network elements.” ECF 55 at 15-16. This is nonsensical: if “forming a network” does not necessarily include “assembling,” then the term cannot provide antecedent basis for the “*assembled* plurality of network elements.” IV offers no explanation for this discrepancy.

⁴ GM did not waive this argument. *See infra* footnote 2.

IV mistakenly argues that GM’s construction creates an antecedent basis issue. But the ’004 claims do not recite “a network” again in claim 68 or any of its dependent claims. *See* ’004 Patent, claims 69-73. GM’s construction for “network” simply explains what “a network” is—a set of devices that communicate with one another. ECF 47-1 at ¶110. In fact, GM’s construction is the only reasonable construction because it addresses the lack of antecedent basis for “*the assembled* plurality of network elements.”

IV’s reliance on the prosecution history is also misplaced. IV admits that the prosecution history treats “forming” and “assembling” as synonymous terms. ECF 55 at 13 (“Those amendments replaced ‘assembling’ with ‘forming.’”); ECF 55 at 14 (“Also, during prosecution, Applicant apparently referred to ‘assembling’ as ‘forming.’”). IV’s misplaced reliance on Figure 9 provides no link to network elements, forming or assembling those network elements, or otherwise forming a network. ’004 Patent, 15:24-16:18. IV also omits relevant limitations when allegedly providing “context” for the claim, including the first/second sets of network elements, either of which could be the “assembled plurality of network elements.” *See id.* at claim 68.

IV then contradicts itself by arguing that “the patentee used different language in claim 68 than that of claim 1, which requires the claim language ‘automatically assembling and configuring’ showing the claims have a different meaning,” while also arguing that “there is only one instance where the elements are assembled – that is when they are formed into a network.” *Compare* ECF 55 at 14 *with* ECF 55 at 16. Because IV obfuscates that “forming a network” includes “assembling,” the jury would benefit from a clear construction. Either claim 68 is indefinite as a result of these inconsistencies, or GM’s construction—which attempts to reconcile these inconsistencies—should be adopted.

Finally, GM does not construe “automatically” because its meaning is well-understood.

Specifically, IV argues that “automatically” means “with no intervention by the *vehicle owner*.” First, “no intervention by the vehicle owner” would allow for manual intervention by any other human being (*e.g.*, passenger, installer, etc.). A manual process does not become automatic based on the human that performs it. Second, IV cites to irrelevant embodiments referring to connecting with external networks, rather than internal networks as claimed. *See* ’004 Patent, 4:29-30. There is no basis to construe automatically so narrowly.

J. ’356 Patent – “assigned time intervals” and “in a time interval”

IV proposed these terms for construction for the first time in its response. These terms should be given their plain and ordinary meanings, which would be readily understood by a POSITA. The intrinsic record provides no definition or disavowal of these terms and there is no need to construe these terms for the jury. IV’s manufactured construction should be rejected. First, IV’s construction introduces new concepts, including a “frame,” which does not appear in *any* of the claims. Second, IV argues that “assigned time slot” has a well understood meaning in TD-CDMA systems, but then fails to provide *any* evidence of that meaning—none of its experts offers an opinion or evidence. ECF 55 at 17. Third, IV argues that “‘time interval’ and ‘time slot’ are used synonymously,” yet fails to explain why the Court should substitute a different term for the one the Applicant chose to use in the claims. Fourth, IV improperly attempts to equate the “*assigned* time intervals” to “*a* time interval that it is not sending information...” (ECF 55 at 17) when nothing in the claims or specification indicates that these are the same “time intervals.”

K. ’356 Patent – “the processor is further configured to receive feedback information ...”

IV argues that GM’s proposed construction improperly focuses on an uplink control signal (UL Beacon). ECF 55 at 18. IV misunderstands GM’s argument—these limitations pertain to a *feedback loop*. The issue is therefore what is the feedback in response to? The intrinsic evidence

informs a POSITA that it is the signal sent over the uplink physical control channel—*i.e.*, the UL beacon signal in the specification. ECF 47-27 at ¶88. Further, IV’s argument that GM’s proposed construction reads out some unknown embodiments should be given no weight given that IV does not explain what those embodiments are or how they could possibly include “feedback” information if there is no uplink signal to respond to—the only embodiment disclosed in the patent.

IV proposes that these claim terms be construed according to their plain and ordinary meaning but does not 1) explain what that meaning is; or 2) assert that the meaning of this term would be apparent to a POSITA. While GM provides evidence and guidance as to what a POSITA would understand these limitations to mean, IV merely criticizes and mischaracterizes GM’s guidance without providing an alternative. *Compare* ECF 47 at 17-19 *with* ECF 55 at 18-19.

L. ’158 Patent – “integration time” (Claims 1-3, 7-9, 11-16)

The term “integration time” is explicitly defined in the specification: “[t]he amount of integrated photo-charge is directly related to *the time the image sensor collects and integrates signal from the scene. This is known as the integration time.*” ’158 Patent, 4:3-6; ECF 55 at 19 (table). Thus, the Court should construe it consistent with the definition in the specification. IV faults GM’s construction because it refers to electrical charge and uses the term accumulates instead of the term integrates. ECF 55 at 20. To resolve that dispute, GM accordingly revises its proposed construction to track the explicit definition.⁵

Despite the clear definition, IV oddly insists that the term “integration time” refers to a “sampling method to make adjustments ‘to create optimal pictures’” and includes setting the integration time *before* the sensor collects and integrates signal as well as combining the output of

⁵ A POSITA would understand that the specification definition and the initial definitions proposed by GM are synonymous. *See* Ex. N at ¶¶8-12.

multiple sensors after each sensor has collected signal. ECF 55 at 20-21; ECF 55-2 at ¶¶144-147. The '158 Patent is clear that the integration time refers to the time *each sensor* collects and integrates signal. Ex. N at ¶¶13-16. In particular, the specification definition could not be more clear that the “integration time” is the time *an image sensor* collects and integrates signal; not the processing time involved in setting the integration time of the sensor before the sensor collects signal, or the time spent combining the output from multiple sensors after the image sensor collects signal.

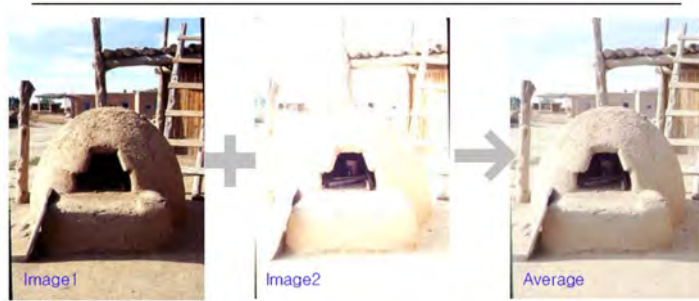
M. '158 Patent – “an image capture device” (Claim 1)

The term “image capture device” refers to “a device with multiple sensors that each capture a portion of the same image.” ECF 47 at 21-23. IV agrees that the claimed device requires multiple sensors. ECF 55 at 21. Thus, the issue is whether the device sensors each capture a portion of the same image (overlapping), or whether the claims encompass a device that uses each sensor as a single sensor to capture an image of a separate independent scene (non-overlapping). The '158 Patent clearly distinguishes the invention from prior art devices that use a single sensor to capture a scene as limited and in “need” of improvement, and describes an invention that improves on these devices by using multiple sensors to capture a portion of the same scene. ECF 47 at 21-22; ECF 47-1 at ¶¶136-140; Ex. N at ¶¶19-20, 22. *See, e.g., MPHU Tech. Inv., LLC v. Ricoh Americas Corp.*, 847 F.3d 1363, 1377 (Fed. Cir. 2017) (“When the specification distinguishes the prior art, the invention should not be construed to encompass the prior art features.”).

The '158 Patent specifically distinguishes the invention from digital cameras that use a single sensor to capture a single frame. The background makes clear that the dynamic range of a single sensor is insufficient to cover a scene with varied lighting, and that there is a need for a device that expands the dynamic range of a single image sensor: “To cover a single scene that might involve indoor lighting...and outdoor lighting, the required intrascene dynamic range is

approximately 10,000:1...[t]his exceeds the dynamic range of a single image sensor using a single integration time.” ’158 Patent, 2:34-40; Ex. N at ¶22. The ’158 Patent then states that “*there is a need for a digital camera in which the single-frame dynamic exposure range is expanded.*” ’158 Patent, 2:40-42; Ex. N at ¶22.

The parties and experts agree that the ’158 Patent achieves a single frame expanded dynamic range with a device that has multiple sensors “to optimize a single field exposure for



optimal picture taking.” See, e.g., ECF 55 at 20-21, ECF 55-2 at ¶¶144-146; ECF 47 at 21-23. As Dr. Andrews explains, the integration time of one sensor is set for a shorter exposure to optimize the image of well-lit areas (left image), the integration time of another sensor is set for a longer exposure to optimize the image of dimly lit areas (middle image), and the images are then combined to optimize the overall exposure (right image). ECF 47-1 at ¶¶66-70; Ex. N at ¶18. From a technical standpoint, a POSITA would understand that using *multiple sensors that each capture a portion of the same scene* is a critical feature, and that the device can only achieve an optimized exposure of a scene with varied lighting conditions if each sensor captures a portion of the same image. Ex. N at ¶20.

IV’s claim differentiation assertion is mistaken.⁶ ECF 55 at 22 (“[d]ependent claim 4 limits claim 1 to require each sensor to image the same field of view”). The “image capture device” does

⁶ IV correctly observes that the ’158 Patent “does not limit the term image capture device to one using ‘different’ integration times.” ECF 55 at 21. The proposed construction does not refer to the “integration time” of each sensor at all. Ex. N at ¶21.

not require that each sensor image *the same* field of view. Rather, each sensor must be capable of imaging only *a portion of* the same scene. Without at least some portion of the same scene being imaged by multiple sensors, there is no technical way to combine the various images to obtain an optimal exposure of a scene. ECF 47-1 at ¶¶137-141. The '158 Patent clearly and unambiguously limits the scope of the claimed “image capture device” to a device with multiple sensors that each capture a portion of the same image.

N. '158 Patent – “an interface...configured to receive the integration time of the each sensor as an input to an image capture device”

GM's construction should be adopted. ECF 47 at 23-24. The claim language is clear that the “interface” is an “input to an image capture device.” To be an interface that acts as an *input* to this device, the interface must receive an input that is external to the device. Otherwise, it is not an “input” to the image capture device because it is already inside the device. This is consistent with how the Federal Circuit has interpreted similar phrases. *See, e.g., Secure Web Conf. Corp. v. Microsoft Corp.*, 640 F. App'x 910, 916 (Fed. Cir. 2016) (input device external to an interface because “the claim is drawn to a...device that different devices can be connected or disconnected from” and if it was not external then “this capability would be unnecessary[.]”)

IV improperly isolates the term “interface” and cites to specification passages that describe output interfaces *from* the image capture device. Ex. 55 at 22-23. The phrase being construed, however, plainly focuses on the interface that is an input to the image capture device. Specification references to the *output* interface do not bear on the meaning of the input interface. IV never explains how an interface that receives an input to an image capture device can already be inside the image capture device itself.

O. '475 Patent – “violation”

This Court should construe “violation” to mean non-compliance with an applicable law

relating to vehicle speed.” ECF 47 at 25. The ’475 Patent clearly states that the “present disclosure” relates to “devices, systems and methods for controlling a speed of a vehicle” ECF at 24-25. The ’475 Patent reveals an intentional disclaimer of scope, and is dispositive of the inventor’s intention. *David Netzer Consulting Eng’r LLC v. Shell Oil Co.*, 824 F.3d 989, 993-994 (Fed. Cir. 2016); *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) (“fuel injection system component” means “fuel filter” based on statements that the “present invention” includes a “fuel filter”).

IV relies on claim differentiation but that doctrine is inapplicable. While claim 3 refers to a “speed of a vehicle exceeding a posted speed limit,” the laws related to vehicle speed are not limited to exceeding a speed limit. A violation may also occur, for example, when a vehicle is driving too slow or at an unsafe speed for the road conditions. Beyond that, IV cites to three specification references. ECF 55 at 24 (citing ’475 Patent 4:19-38, 9:23-30, 10:4-10. But each of these references specifically refers to the speed of the vehicle. *Id.* at 4:19-38 (information module ...that “may calculate...velocity, or speed of a vehicle”); 9:23-30 (“what estimated percentage of vehicles are obeying or violating posted speed limits, average speed of travel...or any combination of these”); 10:4-10 (“For example, if the average speed...is less than the speed limit minus a predetermined offset...”). Neither IV nor its expert identify anything in the “present disclosure” that is described as a “violation” and does not involve vehicle speed. Consistent with the clear description of the “present disclosure” of the ’475 Patent, the only reference to a “violation” and notifying a recipient about a violation involves vehicle speed. *Id.* at 10:20 (“violation notice of any posted speed limit”).

P. ’608 Patent – “first user preference” (Claims 1-8, 10-14)

This Court should construe a “first user preference” to refer to a “user’s previously saved preference information.” IV construes the term “first user preference” to mean “previously saved

preference information.” ECF 55 at 24. But IV’s proposed construction entirely omits the term “user” which appears in the claim and modifies whose “preference” is previously saved, improperly rendering the term “user” meaningless. *See, e.g., Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 810 (Fed. Cir. 2021) (“Here, the striking fact that Qualcomm, in its claim language, did not just say “buffer,” but instead said “hardware buffer,” provides a strong reason to avoid the disfavored result of rendering the word “hardware” superfluous.”) *See also Wasica Finance GmbH v. Continental Automotive Systems, Inc.*, 853 F.3d 1272, 1288 n.10 (Fed. Cir. 2017) (“It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.”). GM proposes that the Court adopt IV’s construction with a slight tweak to make clear that the previously saved preference information is the *user’s* previously saved preference information. This is clear from the claim language which explicitly includes the term “user preference,” and also from the ’608 Patent, which describes the “present invention” as matching preferences of a user. ECF 47-1 at ¶¶104-105; ’608 Patent, 3:41-4:18; *see also* 8:22-43; 8:44-49. IV confirms that the claim refers to the user’s preference information⁷ and objects to GM’s initially proposed construction because it allegedly limits “how that preference is stored or determined.” IV’s construction with GM’s slight revision avoids this criticism. ECF 55 at 24-25.

Q. ’608 Patent – “a geographic area limitation” (Claims 1, 2, 5, 8, 9, 12)

The term “a geographic area limitation” should be construed to mean “a geographic area supplied by a user for limiting the search for matching objects.” The ’608 Patent clearly describes the “present invention” as a system that “matches the specific expressed interests and preferences of a user” and those preferences include the distance from the user. ’608 Patent, 3:41-4:18; 8:22-

⁷ *See, e.g.,* ECF 55 at 24 (“The specification contemplates ‘profile or preferences’ of the user.”)

34; 14:55-59. IV repeatedly cites to specification passages that reconfirm GM’s proposed construction. ECF 55 at 25 citing ’608 Patent, 4:19-22 (“*match the user’s expressed preferences* and are within a *prescribed* geographic area”); 3:34-37 (same); 9:65-66 (“merchant is within the distance range selected by the user”); 7:11-15 (referring to “within a specified vicinity of the user” as one of the preferences of the user); 8:49-52 (referring to user indicating he likes Mexican food but only places that are within 10 miles of his location); 9:5-14 (user indicates he likes hang gliding within a 20 mile radius of his location); 16:30-34 (If any media content matches the preferences of the user...and the location of the people, places and/or things...is within the distance range selected by the user”). Thus, the geographic area limitation is supplied by the user for limiting the search for matching objects.

IV attacks GM’s inclusion of the words “distance or shape” in its original proposed construction, calling these terms confusing and already covered by dependent claim 5. ECF 55 at 26-27. To resolve this issue, GM has omitted the terms “distance or shape” from the construction in favor of the original claim term “area.” GM’s proposed construction should be adopted.

R. ’608 Patent – “substantially real-time updates” (Claims 3 and 10)

The term “receiving substantially real time updates” is indefinite. ECF 47 at 31; *See, e.g., RideApp v. Lyft, Inc.*, 845 Fed. Appx. 959, 962-963 (Fed. Cir. 2021) (affirming finding of “real-time” in claim as “indefinite”). IV says this term refers to GPS communications with satellites and the delays based on the time it takes to send/receive signals. ECF 55 at 27; ECF 55-2 at ¶¶176-180. Even if accepted, the outcome is the same. The ’608 specification consistently refers to these GPS location-based communications as “real-time” communications. ’608 Patent, 4:56-59 (“real-time GPS location-based systems”); 13:12-15 (“system may work with both real-time GPS location-based systems”). In other words, a POSITA would understand that the term “real-time” incorporates delays inherent in GPS location-based system communications. Ex. N at ¶37. The

claim is still indefinite because the specification does not provide any guidance as to how an update that is not received in “real-time” (including GPS communication delays) is received “substantially” in real-time. *Id.* at ¶38. Without further guidance concerning the allowable span of time between updates, one POSITA may consider an update to be “substantially” in real-time while another may not. *Id.* at. ¶¶38-39.⁸ The ’608 Patent simply provides no objective standard that allows a POSITA to determine when an update that is not in real-time is nonetheless “substantially” in real-time.⁹

S. ’466 Patent – “first parameter,” “second parameter,” “third parameter,” and “fourth parameter” (Claims 1, 3, 6, 8)

IV does not dispute that the first parameter is different from the second and third parameters. IV also does not dispute that the fourth parameter is a different parameter from that of the first, second, and third parameters. However, IV claims that the second and third parameters can be the same parameter for different channels. ECF 55 at 29. This is inconsistent with the plain and ordinary meaning of the claim language as well as the ’466 specification.

IV provides no evidence that the second and third parameters may be the same parameter, except to broadly conclude that nothing suggests otherwise. ECF 55 at 29. This is false. Even if

⁸ The ’608 Patent specification’s failure to describe a “substantially” real-time update distinguishes this case from those cited by IV. ECF 55 at 28. In those cases, the patent specification described what the term “substantially” or “near” real-time meant. *See EdiSync Sys., Inc. v. Adobe Sys., Inc.*, 2017 WL 2610157, at *11 (D. Colo. 2017) (“[T]he Patent repeatedly suggests that the metric to determine “substantially” in this context is one of perceptibility of the difference between the speed at which edits are made and displayed via the host PC and the speed at which those edits would be made and displayed if the same operation had been carried out on the user’s own PC”); *Tech Pharmacy Servcs. LLC v. Alixa RX, LLC*, 2016 WL 6397358, at *18 (E.D. Texas Oct. 28, 2016) (“near-real time” used in specification “in relation to dispensing medication faster than was typically achievable using a vehicle to transport medication from a traditional pharmacy to the patient”).

⁹ IV’s waiver argument is meritless. *See* footnote 2, *supra*.

the second and third parameters are “derived from” the first parameter, this does not mean that they derive from the first parameter in identical ways such that they are the same parameter. In fact, as IV notes, claim 3 more clearly specifies the different ways in which the second and third parameters are derived from the first parameter. ECF 55 at 30. Indeed, if the second and third parameter were the same parameter, there would be no need to specify two different parameters – the claim would simply refer to a single parameter. *See Bd. of Regents of the Univ. of Texas Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008).

T. ‘466 Patent – “wherein resources are allocated for data of each channel...”

IV’s response completely rewrites its prior proposed construction for this term and then disingenuously claims that GM “its briefing provide any substantive reason to reject the District Court’s construction from the *Sprint* case.” ECF 55 at 32. The claim language is clear on its face. IV’s construction attempts to introduce new concepts that are neither disclosed in the claims or the specification, including “set[s] of data,” while still parroting other parts of the original claim term. IV’s construction also creates ambiguity, such as whether the “second parameter” in the claim refers to “the data” or to “each channel.” IV does not even bother to explain why the Court should adopt this construction. IV’s only argument is that a different court adopted this construction.

U. ‘628 Patent – “Store video data in the buffer”

This Court should construe “store video data in the buffer” to mean “store video data in a loop buffer for a predetermined time.”¹⁰ The ‘628 Patent clearly and unambiguously defines the scope of the video recorder of the invention in this manner. Ex. 47 at 37 (citing ‘628 Patent, 2:11-24 (“[t]he video recorder of this invention can record ‘backwards in time.’ That is this invention

¹⁰ GM’s proposed construction is a slight modification of its originally proposed construction. The revision is proposed to more accurately track the express description of the “present invention” in the ‘628 specification.

provides time-delayed video and audio data. The video recorder stores video and audio data in a loop buffer. The loop buffer stores video and audio data for a predetermined duration or elapse of time.”); 3:53-62 (“[t]he video recorder 10 of this invention also provides time-delayed video and audio data. The video recorder 10 stores video and audio data in a loop buffer 14. The loop buffer 14 stores video and audio data for a predetermined duration or elapse of time”). IV ignores these references, admits that the preferred embodiment “indisputably uses a loop buffer,” and admits that “the specification does not refer to other types of buffers.” ECF 55 at 33. This confirms that the ’628 Patent clearly defines “store video data in a buffer” to mean “store video data in a loop buffer for a predetermined time” and disavows a broader claim scope. *Honeywell*, 452 F.3d at 1318 (“fuel injection system component” means “fuel filter” based on repeated statements that the “present invention” includes a “fuel filter”); *Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc.*, 450 F.3d 1350, 1354 (Fed. Cir. 2006).

IV cannot rely on claim 6 to override the clear claim scope limit in the ’628 specification. ECF 55 at 32-33. Claim differentiation cannot “overcome...a contrary construction dictated by the written description or prosecution history.” *Wi-LAN USA, Inc. v. Apple Inc.*, 830 F.3d 1374, 1391 (Fed. Cir. 2016); *Traxcell Techs., LLC v. Nokia Sols. & Networks Oy*, 15 F.4th 1136, 1143 (Fed. Cir. 2021). The Federal Circuit has construed claim terms consistent with the specification description of the “present invention” despite claim differentiation challenges. *See, e.g., Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1359 (Fed. Cir. 2012) (“biocompatible” construed based on specification reference to the “present invention”); *Am. Calcar, Inc. v. Am. Honda Motor Co.*, 651 F.3d 1318, 1337 (Fed. Cir. 2011) (“messages” construed consistent with specification definition). Here, the ’628 specification clearly defines the video recorder of the invention as one that stores video data in a loop buffer for a predetermined time and that definition

controls. *Honeywell*, 452 F.3d at 1318 (“The public is entitled to take the patentee at his word”).

V. ’138 Patent – “wherein the selection of the data occurs using a first iteration and a second iteration” (Claims 1 and 8)

IV fails to dispute any of GM’s arguments. For instance, IV provides no alternative dictionary definition for “iteration,” which explicitly provides that iterations involve repeating the same steps multiple times. ECF 55 at 34-35; ECF 47-28 at ¶176. GM’s construction is exactly what the ’138 Patent flowcharts show—the same series of *steps* are followed. ECF 47-28 at ¶¶178-181. That different factors determine the outcome does not change the fact that the same steps were followed. The steps and variables considered did not change between iterations—the *value* of the input variables determined the different outcomes between iterations. ECF 47-28 at ¶178.

W. ’138 Patent – Claims 1 and 8 are indefinite

IV also mischaracterizes GM’s argument, incorrectly stating that “GM uses is [sic] incorrect construction to argue the larger limitation is indefinite.” ECF 55 at 35. The preceding construction merely highlights why the claims are indefinite—iterations do not involve different steps. If the claims do not require the two iterations to use the same steps, then the claims are indefinite because they are no longer iterations—they are a different processes entirely. For this reason, claims 1 and 8 are indefinite.

X. Section 112, ¶6 Functional Claiming

“[T]he presumption can be overcome and § 112, ¶6 will apply if the challenger demonstrates that the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (*en banc*). In many cases, IV’s response confirms that §112(f) applies, pointing to general purpose computers, processors or memory that do not perform the recited claim functions. The Federal Circuit has made clear that “the question

is not whether a claim term recites *any* structure but whether it recites *sufficient* structure—a claim term is subject to §112(f) if it recites “function without reciting sufficient structure *for performing that function*.” *Egenera, Inc. v. Cisco Sys., Inc.*, 972 F.3d 1367, 1373 (Fed. Cir. 2020). “A challenger need only show that the structure is not ‘sufficient.’” *Id.*

Y. ’771 Patent – “local content module...” (Claim 4)

The “local content module” claim language is subject to §112(f) construction. ECF 47 at 43. The term “module” is used interchangeably with the term “means” in the ’771 specification and the “local content module” is depicted as a black box. ECF 47 at 43-44. IV admits that the claim language recites function: “claim 4’s local content module’s recited function of ‘stor[ing] content that can be accessed by said client devices directly through said high-speed access point.” ECF 55 at 36. IV contends that a POSITA would understand a “‘local content module’ contains memory” and that the function of storing content “would be achieved using memory.” ECF 55 at 36; ECF 55-2 at ¶¶77. But memory alone does not perform the claimed “storing” function. Ex. O at ¶¶16-17. Memory is the object that local content is stored within. An appropriately programmed processor is required for storing local content on the memory. *Id.*, ¶¶18-19; *see, e.g., In re Katz Technologies*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) (“general purpose processor” performs “storing” function). Thus the “local content module” phrase fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Williamson*, 792 F.3d at 1349.

Construed under §112(f), the “local content module” claim language is indefinite. ECF 47 at 44. IV merely reiterates that the local content module includes memory. ECF 55 at 37. But as discussed above, “memory” alone does not perform the claimed function of “storing content that can be accessed by said client devices directly through said high-speed access point.” Ex. O at ¶20. The ’771 specification fails to disclose corresponding structure for the claimed “storing” function

and is therefore indefinite. *Williamson*, 792 F.3d at 1354.

Z. '318 Patent – “processor configured to...” (Claim 8)

The presumption that §112, ¶6 does not apply is rebutted. ECF 47 at 45-46. IV admits that the claim language recites a function: “determine the length of time of the transmit opportunity based on a priority of the first queue.” ECF 55 at 38. IV also concedes the only specific structure disclosed in the '318 Patent is of a general purpose processor. ECF 55 at 39. However, a general purpose processor alone cannot perform the function claimed here; it must be *programmed to perform particular functions pursuant to instructions from program software*. *Williamson*, 792 F.3d at 1352. Thus, §112, ¶6 clearly applies.

Construed under §112, ¶6, the “processor configured to...” claim language is indefinite because the '318 patent discloses no algorithm for performing the claimed functions. *Williamson*, 792 F.3d at 1352. IV’s citation to task 304 simply states “Determine T_i for Queue 304-i”—that is not an algorithm for *how* to determine T_i . Ex O at ¶¶7-8. IV’s reliance on the '318 Patent at 3:64-4:22 fares no better. It states T_i could be 1) “static or dynamic” (*i.e.* anything); 2) the same or different for each station (again, non-limiting); 3) updated “periodically or sporadically” (*i.e.* at any time); and 4) “based on” one or more of five factors (or “any combination” thereof). This “is simply a description of the outcome of the claimed functions, not a description of the structure, *i.e.*, the computer programmed to execute a particular algorithm.” *See* Ex. O at ¶¶8-9. *Aristocrat Tecs. Austl. Pty Ltd. v. Int’l Game Tech*, 521 F.3d 1328, 1334–35 (Fed. Cir. 2008).

The specification removes any doubt of its lack of an algorithm, stating “[i]t will be clear to those skilled in the art, after reading this specification, how to determine and use other criteria for establishing T_i for application i.” '318 Patent, 4:18-22. That is insufficient under the law. *Aristocrat*, 521 F.3d at 1337-38 (“It is not enough for the patentee simply to state or later argue that persons of ordinary skill in the art would know what structures to use to accomplish the

claimed function.”). *See also* Ex. O at ¶¶10-12. Further, this disclosure, coupled with IV’s contention that the specification provides guidance such that a POSITA would “recognize” an algorithm, indicates that IV is relying on the knowledge of a POSITA or the prior art to identify the required algorithm. *Id.* at ¶12. This too is in direct contradiction to the law, and contrary to the prosecution history. *Aristocrat*, 521 F.3d at 1338 (“[T]he patent does not disclose the required algorithm or algorithms, and a person of ordinary skill in the art would not recognize the patent as disclosing any algorithm at all”); *Biomedino, LLC v. Waters Technologies Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007); *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1380 (Fed. Cir. 1999). Ex. O at ¶13. The ’318 Patent essentially claims any, and every, way to determine T_i , without disclosing a single way to do so. The claim is therefore indefinite.

AA. ’356 Patent – “processor...configured...to...” (Claim 1)

The presumption that § 112, ¶6 does not apply is rebutted because the claims fail to “recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function” *Williamson*, 792 F.3d at 1349. The limitations in claim 1 are clearly laid out as functions. ’356 Patent, claim 1; ECF 47-28 at ¶93. IV admits that the only structure the ’356 Patent discloses is a general purpose processor. ECF 55 at 42 (“[A] POSITA would understand the claimed ‘processing component’ to refer to a computer processor, a class of structures well-known in the art.”). IV ignores the *Williamson* test and the relationship between the structure and the claimed functions. The structure has to be sufficient to perform the claimed functions, not just any function. A general purpose computer is not a suitable structure or class of structures for performing the technical and detailed claimed functions. *Aristocrat*, 521 F.3d at 1337-38.

Construed under § 112, ¶6, claim 1 is indefinite. IV asserts that a POSITA would have understood that the claimed functions could be performed by a general purpose processor “optimized” to meet various standards. ECF 55 at 44. This is insufficient. *Aristocrat*, 521 F.3d at

1337-38. In fact, IV does not point to a single algorithm in the specification (or even known in the art). Although not relevant to the analysis because the disclosure must be in the specification, IV does not even argue that any wireless standard teaches any algorithm that a POSITA would have recognized to perform these functions. IV has also failed to show that the preamble is limiting—which was not identified for construction.

IV provides only cursory citations to '356 Patent Figure 1 and 2:34, claiming without explanation that the physical structure of the processor to perform the claimed function is supported by these citations. ECF 55 at 41-42. However, this contention is irrelevant because the question is not whether a processor can be programmed to perform the claimed functions—the question is whether the specification of the '356 Patent includes an algorithm to teach a POSITA to perform the claimed functions. *Williamson*, 792 F.3d at 1352. The answer is no.

IV then attempts to salvage the lack of algorithm to support the claimed functions by citing to the general purpose computer disclosed in Figure 5 of the '356 Patent. However, the portion of the specification cited by IV—7:56-8:4 and 8:48-9:5—are entirely focused on the structure of a general-purpose computer; no algorithm is disclosed. Further, IV's discussion of a GGSN device is nothing more than unsupported attorney argument. ECF 55 at 43.

BB. '641 Patent – “circuitry configured to...” (Claim 11) and “mobile station is configured to...” (Claims 11 and 25)

IV fails to apply well-settled case law or respond to GM's arguments. To be clear, claims 11 and 25 of the '641 Patent are indefinite because when properly construed in accordance with § 112, ¶6, they fail to recite an algorithm for performing the claimed functions. ECF 47 at 49-51. On their own, mere “circuitry,” “mobile station[s],” or general purpose computers cannot provide specialized functions, nor would a POSITA have understood these generic structures to perform the detailed and specific functions in the claims. ECF 47-28 at ¶122.

Because the claimed “circuitry” and “mobile station” fail to connote sufficient structure to perform the claimed functions, IV relies on the knowledge of a POSITA to “fill the gap”—i.e., provide the algorithm not disclosed in the specification of the ’641 patent to meet the second step of the *Williamson* analysis. ECF 55 at 47. This is an incorrect analysis. *Aristocrat*, 521 F.3d at 1337-38 (“It is not enough for the patentee simply to state or later argue that persons of ordinary skill in the art would know what structures to use to accomplish the claimed function.”).

IV then focuses on structure of the general purpose devices claimed and described, as well as the functions/functionality they are generally supposed to provide, but says nothing about the algorithms necessary to produce that functionality. Because the “circuitry” and “mobile station” fail to connote sufficient structure for the claimed functions, and because IV fails to identify any algorithm taught by the ’641 Patent for performing any of the claimed functions, let alone all (as required under *Williamson* and *Aristocrat*), claims 11 and 25 of the ’641 Patent are indefinite.

CC. ’158 Patent – “processing component...configured to” (Claims 1, 5, and 9)

The “processing component...configured to” language in claims 1, 5 and 9 is subject §112(f) construction because the claims fail to “recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function” *Williamson*, 792 F.3d at 1349). ECF 47 at 52. IV confirms that §112(f) applies. First, IV admits that the “processing component...configured to” claim language recites functions, which are controlling the integration time of multiple sensors (claim 1), combining image data from multiple sensors (claim 5), and determining integration time of multiple channels (claim 9). ECF 55 at 48. Second, IV identifies the alleged “structure” as “computer circuitry and programming for processing data to perform operations.” ECF 55 at 48-49; ECF 55-2 at ¶154. But, IV’s identified structure is tantamount to general purposes computer circuitry and is not sufficient structure to perform the claimed functions. ECF 47 at 53-54; ECF 47-1 at ¶¶152-160; Ex. N at ¶25. The computer circuitry must be

specially programmed to perform each of the claimed functions and IV's general reference to "programming" fails to point to specific software or programming that provides sufficient structure for performing the claimed functions.

Construed under §112(f), the "processing component...configured to" claim language is clearly indefinite. ECF 47 at 54. IV admits that the '158 specification must disclose "the operations and algorithm involved in performing the recited functions." ECF 55 at 49. But IV points to nothing in the '158 Patent specification that identifies an algorithm, flow chart or step-by-step procedure for performing any of the claimed "controlling," "determining," or "combining" functions. IV block cites more than 10 specification columns and 9 figures (ECF 55 at 50-51) but most of these references do not refer to the claimed functions at all. The few that do either restate the function being performed without providing any detail as to *how* the function is performed (*e.g.*, 4:41-50, 5:4-11, 8:50-52, 8:64-66, 9:2-5, 9:9-11, 9:12-16, 9:25-26, 11:19-43, 11:57-12:27, (12:56-58; 13:5-7; 13:30-32; 13:51-54; 13:56-60; 17:22-24; 21:42-45; 21:64-67), or refer to the integration time settings of a particular embodiment without providing any detail as to *how* the integration time was controlled or determined (*e.g.*, 9:38-62; 10:4-8, 10:15-19, 10:40-42, 10:50-52; 10:58-61, 11:8-10; 11:16-18; 22:15-18). Ex. N at ¶¶26-32. The specification fails to describe an algorithm or step-by-step procedure for performing the claimed functions and thus "processing component... configured to" is indefinite. *Id.* at ¶¶33-35.

DD. '475 Patent – "processing module configured to..." (Claim 15)

The "processing module" language in Claim 15 is subject to §112(f) construction. ECF 47 at 54-57. §112(f) applies because the term "module" is a substitute for the term "means" in the '475 Patent, and the "processing module" claim language recites function without reciting sufficient structure for performing the claimed function. *Id.* at 54-56. IV says that "processing module" refers to a generic "processor" that processes data to perform a variety of computer

operations. ECF 55 at 52. But, a general purpose “processor” or “computer circuitry” that processes data and performs operations is not *sufficient* structure to perform the recited “determining” function. ECF 47 at 56; ECF 47-1 at ¶¶195-201. IV admits this by pointing out that the specification acknowledges “computer software instructions” are “programmed into the module and conventional computer processing power” is used. ECF 55 at 54, quoting ’475 Patent, 3:56-62 Thus, §112(f) applies.

Construed under §112(f), the claim function is: determining whether a vehicle committed a violation. The corresponding structure disclosed in the ’475 specification for performing the claimed function is the “step-by-step procedure of the processing module’s operation” set forth at pages 53-56 of IV’s response brief, including the ’475 Patent, 2:23-34, 3:1-5, 3:56-4:8, 4:21-38, 5:12-51, 6:6-49, 7:28-8:39, 9:4-10:37.

EE. ’628 Patent – “processor is configured to ...” (Claim 1)

The “processor configured to” language in ’628 Patent claim 1 is subject to §112(f) construction. ECF 47 at 57-58; ECF 47-1 at ¶¶219-220. IV agrees that this claim language recites the functions of “detect a movement of a door latch of a vehicle” and “attempt to detect a wireless key fob” (ECF 55 at 56) and that “a POSITA would understand the claimed ‘processor’ to refer to a computer processor...” ECF 55 at 56-57 citing ECF 55-2 at ¶¶113-124. But a general purpose processor alone is not sufficient structure to perform the claimed functions. IV’s own expert admits that a sensor detects a movement of a door latch, not a processor. ECF 55-2 at ¶116. Further, a POSITA would understand that a general purpose processor must include specific programming instructions to configure it to detect a movement of a latch or to attempt to detect a wireless key fob. ECF 47 at 57-58; ECF 47-1 at ¶¶219-20. **The claims fail to “recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function” and §112(f) applies. *Williamson*, 792 F.3d at 1349.**

Construed under §112(f), the “processor is configured to” claim language is indefinite. ECF 47 at 58. The corresponding structure for performing the claimed functions of detecting movement of a door latch and attempting to detect a wireless key fob require an algorithm because the functions are implemented by a general purpose “processor” or “microprocessor” *WMS Gaming Inc. v. Int’l Gam Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). ECF 47-1 at ¶¶229-230. However, the ’628 Patent contains no algorithm for performing these claimed functions. *Id.* IV and its expert effectively admit that there is no algorithm disclosed in the ’628 Patent, stating that a “POSITA *would find* a sufficient algorithm for configuring the claimed ‘processor’ to carry out the recited functions” based on “the specification’s guidance.” ECF 55-2 at ¶124. The law is clear that it is not enough to claim that “one of ordinary skill in the art could build the device claimed in the patent based on the disclosure in the specification.” *Encyclopaedia Britannica, Inc. v. Alpine Elecs. Inc.*, 355 Fed. Appx. 389, 394 (Fed. Cir. 2009) citing *Aristocrat*, 521 F.3d at 1336. IV points to various figures and specification references to a “set of instructions” and a “set of rules,” but at most those references generally refer to unspecified programming instructions or rules for transferring video data. Ex. N at ¶¶42-48. None of those references mention, much less provide an algorithm for performing the claimed functions of (i) detecting door latch movement; and (ii) attempting to detect a wireless key fob. *Id.* at ¶49. Because the ’628 Patent fails to include an algorithm for performing the claimed functions, the “processor is configured to” claim language is indefinite. *Williamson*, 792 F.3d at 1354.

FF. ’138 Patent – “processor is configured to” (Claim 1)

The “processor” claim language is subject to §112, ¶6 at least because it fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” ECF 47 at 59-60; *Williamson*, 792 F.3d at 1349. A general purpose computer is not capable of performing the functions recited in ’138 Patent claim 1 and would need

to be “further programmed with specific instructions to enable it to become a special purpose processor capable of performing the claimed functions.” ECF 47 at 60. IV cites to the functions that the processor is configured to perform, but does not dispute that a general purpose processor alone is not configured to provide these functions. Accordingly, § 112(6) applies.

Under § 112, ¶6, claim 1 is indefinite because the ’138 Patent fails to disclose an algorithm to program the general purpose processor to perform the claimed functions. *Aristocrat*, 521 F.3d at 1333. However, IV does not describe a single *algorithm* in the ’138 Patent that a processor would be programmed with for providing the claimed functions. Instead, IV vaguely claims that Figure 6 and its associated specification description provide the necessary algorithm. However, Aside from merely pointing to Figure 6 and stating that the ’138 Patent teaches an algorithm, IV provides no analysis tying Figure 6 to the claimed functions. At best, the Figure 6 disclosure “is simply a description of the outcome of the claimed functions, not a description of the structure, *i.e.*, the computer programmed to execute a particular algorithm.” *Aristocrat*, 521 F.3d at 1334–35. Accordingly, claim 1 is indefinite.

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing document was filed electronically in compliance with Local Rule CV-5(a). As such, this document was served on all counsel who have consented to electronic service on September 2, 2022.

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